

# **Vaccine Management**

Handling and Storage Details  
for Vaccines



# Introduction

Keeping vaccines at the proper temperature at all times is called **maintaining the cold chain**. The “cold chain” starts at the manufacturer, and continues until the vaccine is used. It is just as important to keep vaccines which should not be frozen from freezing, as it is to keep other vaccines from getting too warm. **It is up to everyone to see that the “cold chain” is not broken.**

Vaccines must be refrigerated at recommended temperatures to maintain the cold chain. However, it is often taken for granted that a refrigerator/freezer takes care of vaccine storage. Problems may occur with the way vaccines are stored in clinics, due to a malfunction of equipment, or errors by staff who have not received necessary training.

Replacing compromised vaccines can be costly in time and money. Furthermore, there may be a need to search records to determine which patients were given potentially “spoiled” vaccines and who might need to be re-vaccinated. Further time must then be spent dealing with anguished or annoyed patients or parents who have to return to the clinic for re-vaccination. By having the right equipment, trained staff, and written standard operating procedures for handling vaccines in all situations, many of these problems can be avoided.



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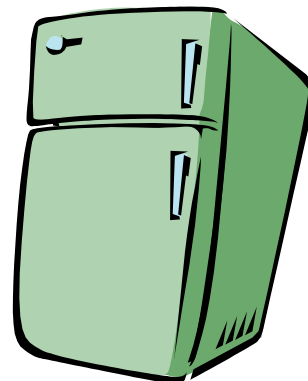
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## Equipment

To be sure vaccines are kept at the correct temperatures you need a refrigerator, a freezer, and a thermometer for each. An alarm system, plug locks, and a back-up generator are also strongly recommended.



### Refrigerator and Freezer:

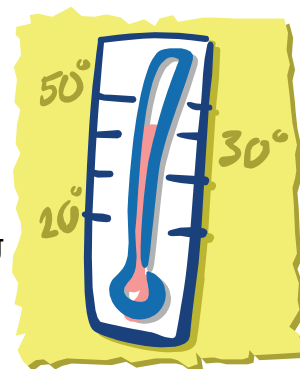
- ★ A standard household style refrigerator/freezer unit is sufficient for storage of vaccines. *Dormitory style refrigerator/freezers are not recommended* because they do not maintain adequate temperatures. While, the Utah VFC Program will allow a dormitory style refrigerator to be used for storage of refrigerated vaccines, it may not be used for storage of varicella (chickenpox) vaccine. Certification of proper storage for varicella is required.
- ★ The refrigerator compartment should maintain temperatures between 35° - 46° Fahrenheit [F] (2° - 8° Celsius [C]). Since temperatures should never reach below 32° F (0° C), set the temperature mid-range, about 40° F (5° C) to provide the best safety margin. The freezer compartment should maintain temperatures at or below 5° F (-15° C).

**CAUTION:** Most vaccines in the refrigerator may be quickly damaged if the unit is set too cold and vaccines freeze.

- ★ Frost-free freezers are acceptable. If the freezer is not frost-free, ice should not be allowed to build-up more than 1/4 inch. When defrosting the freezer, use a temporary back-up freezer for vaccine storage.
- ★ If the refrigerator/freezer unit is new or just repaired, allow two weeks of recorded temperature checks, within normal ranges, before placing vaccines into the unit.
- ★ Frequently opening the door interrupts the cold chain. It is recommended to store water bottles in the refrigerator door and ice packs in the freezer to help maintain a stable temperature.
- ★ Never store food, beverages or specimens in the same unit as vaccines. This interferes with proper temperature control and may contaminate vaccines.
- ★ Vaccines should be stored in the center of the refrigerator/freezer, allowing air to circulate around the vaccines. Do not store them in the doors, air-tight containers, or crispers. Open-weave, plastic storage baskets are acceptable.

## Thermometers:

It's important that vaccines be kept at the proper temperature at all times. In order to ensure that the refrigerator and freezer are maintaining proper temperatures, each unit should have a thermometer. Visually check thermometers twice a day, once in the morning and once in the evening, and record those temperatures on a log (enclosed in this booklet), regardless of the type of thermometer used. This is the most effective method of identifying inconsistent or fluctuating temperatures in a refrigerator/freezer. Thermometers provide the most useful information about actual storage temperatures and can alert you to possible equipment malfunctions.



There are many different types of thermometers. Any of the following thermometers are adequate for recording temperatures of your refrigerator and freezer. However, the Utah VFC Program **requires** using thermometers that are certified and calibrated.

- ★ **Standard Fluid Filled:** very easy to see and read temperature.
- ★ **Dial:** most common, but not the most accurate
- ★ **Minimum/Maximum:** tells the highest and lowest temperatures reached, but can be difficult to read.
- ★ **Digital:** very easy to read and some come with an alarm, but the temperature probe must be placed in the proper location inside the unit in order to get an accurate reading.
- ★ **Continuous Reading:** will record the temperature inside the unit at all times, 24 hours a day, on a sheet of paper, but the paper must be changed when it is running low. Using this thermometer is the most effective method of tracking the refrigerator/freezer temperature over time.



## Security:

Considering the high cost of vaccines, it is important to have a system in place to ensure the refrigerator/freezer maintains proper temperatures and the “cold chain” remains unbroken.

- ★ Install a security/alarm system which will give a warning if the temperatures rise or fall outside normal ranges. Some systems can alert a guard or notify designated staff.
- ★ Invest in a back-up generator that automatically provides power to maintain the temperature in the refrigerator/freezer should there be a power outage.
- ★ Prepare a written plan of action in the event of a power outage. Make sure all staff know and understand the plan.
- ★ Install a lock on the refrigerator/freezer plug to ensure that it doesn't accidentally get unplugged.
- ★ Place a warning sign at the plug and another at the circuit breaker to ensure that the refrigerator/freezer power is not turned off.

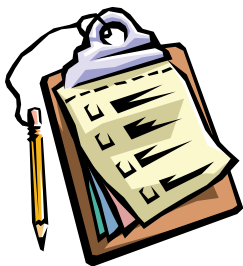
## Personnel

Good vaccine storage and handling depends on the knowledge and habits of the clinic staff.

- ★ Designate a trained person to be “in charge” of vaccines. In addition, train and designate a “back-up” person.
- ★ Everyone involved in vaccines should be trained on the following:
  - ✓ Correct storage temperatures of each vaccine.
  - ✓ Proper handling conditions for each vaccine. (Fridge or freezer)
  - ✓ How to read temperature gauges.
  - ✓ What to do with vaccines in an emergency situation.
- ★ Ensure new employees receive and understand all necessary training regarding vaccines.

Proper training ensures that everyone handling vaccines knows how to protect them!

## Standard Operating Procedures (SOP's)



It is important to have written procedures to help you stay organized and to provide quality assurance (QA). Clinics should establish a set of procedures for both daily and emergency situations.

### Routine Vaccine Handling Plan:

A routine vaccine handling plan includes operations that take place on a continuous basis and helps prevent vaccine loss due to errors. You must:

- ★ Maintain proper temperatures for storage of vaccines. Refrigerator: 35°-46° F (2°-8° C) Freezer: 5°F ( -15° C) or colder.
- ★ Maintain a daily log of temperature checks, twice a day, beginning and end of the day, regardless of the thermometer used. (Use the temperature log included in this booklet)
- ★ Maintain an ongoing file of temperature logs for 3 years, do not throw them away.
- ★ Open vaccine shipments as soon as they arrive and store appropriately.
- ★ Label “VFC” vaccines and store separately from private stock of vaccines.
- ★ Conduct **monthly** inventory counts.
- ★ Store and rotate vaccines according to expiration dates and use vaccines with the shortest expiration dates first.
- ★ If vaccines are within 90 days of expiration and will not be used, they should be transferred to another VFC Provider. Contact the Utah VFC Program for prior approval and assistance.
- ★ Order vaccines sensibly, do not over order.
- ★ Check refrigerator/freezer doors to assure they are closed and, if possible, padlocked at the end of each day.
- ★ Advise maintenance and cleaning personnel not to unplug storage units. Place “**Do Not Unplug**” signs near the outlet and install safety outlet covers.

## Emergency Vaccine Handling Plan:

An emergency vaccine handling plan includes operations to follow so vaccines are protected in the event of a power outage or equipment failure. This plan should assure vaccines are stored properly as quickly as possible. It should specify:

- ★ Personnel designated “in charge” of vaccines have 24-hour access to building and refrigerator/freezer units in which vaccines are stored.
  - ★ How designated personnel are notified in the event of a vaccine storage emergency.
  - ★ Steps personnel should follow for proper storage & handling of vaccines when the emergency occurs. (Ex. How to pack and move vaccines, etc.)
  - ★ Alternate storage units and facilities (e.g., a back-up refrigerator, the fire department, a nearby hospital, or another provider, etc.) and procedures that personnel should follow to access those units and facilities. Alternate storage units should not contain food or beverage.
  - ★ A refrigerator/freezer repair company, their phone number, and the refrigerator/freezer brand name & serial number.
- Your emergency vaccine handling plan should be **in writing** and all staff should be required to review the emergency plan annually. Enclosed is a template that can be used to assist with developing your vaccine handling plans.

Prevent loss of vaccines by preparing for power outages and equipment failures.

## Avoiding Problems - Key Points

Take a few extra precautions to ensure the quality and effectiveness of your vaccines.

Following are some reminders of key points & basic tips:

- ✓ Train one person and one back-up person for vaccine care.
- ✓ Maintain daily log of temperature checks.
- ✓ Don't record temperatures out of range and do nothing. If temperatures are out of range make necessary adjustments or call the Utah VFC Program for assistance. Document what was done on the temperature log.
- ✓ Conduct monthly inventory counts. Make sure you write down the physical inventory and keep for future documentation.
- ✓ Store and rotate vaccines according to expiration date.
- ✓ Don't use expired or “potentially spoiled” vaccines.
- ✓ Label vaccines “VFC” & store separately.
- ✓ Establish routine and emergency vaccine handling plans.
- ✓ Post “Do Not Unplug” signs by outlet & circuit breaker.
- ✓ Provide back-up power and an alarm system, if possible.
- ✓ Store extra ice packs along the walls, back, and in the door of the freezer and water bottles in the refrigerator. This will help maintain the temperature during a power outage.
- ✓ Don't store vaccine in the refrigerator/freezer door, air-tight containers, or crispers.

# Fahrenheit (°F)Temperature Log

MONTH: \_\_\_\_\_

REFRIGERATOR 35-46 °F																					
Day of Month	Time	Staff Initials		≥49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	≤32
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**Instructions:** Place an "X" in the box that corresponds with the temperature (columns), day of the month, and am or pm (rows) for your temperature check. Then enter your initials and the time you monitored the temperature in the appropriate boxes.

**If the temperature is in the gray range:**

1. Store the vaccine under proper conditions as quickly as possible.
2. Call the vaccine manufacturers to determine whether the potency of the vaccine has been affected and
3. Call the Utah Immunization Program at (801)538-9450.
4. Document what action was taken to ensure vaccine viability.



# Celsius (°C)Temperature Log

MONTH: \_\_\_\_\_

## REFRIGERATOR 2-8 °C

Day of Month	Time	Staff Initials		≥11	10	9	8	7	6	5	4	3	2	1	0	≤-1
1			am	T											T	
			pm													
2			am	T											T	
			pm													
3			am	T											T	
			pm													
4			am													
			pm													
5			am	O											O	
			pm													
6			am	O											O	
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			pm													
30			am	M											D	
			pm													
31			am	M											D	
			pm													

## FREEZER ≤ -15 °C

≥-12	-13	-14	-15	-16	-17	-18	-19	≤-20
T								
O								
O								
W								
A								
R								
M								



## Routine and Emergency Vaccine Handling Plans TEMPLATE

Practice Name: \_\_\_\_\_

Date: \_\_\_\_\_

Person Completing Form: \_\_\_\_\_

These are guidelines to follow in developing routine and emergency vaccine handling plans. They should be posted near your storage unit or where they can be easily accessed in case of an emergency. **All**

**office staff, including the janitor and security guard, should know the standard procedure to follow and where/how the individual vaccines are to be stored.**

### Routine Vaccine Handling/Storage Plan

- ☐ Designate two people responsible for routine vaccine storage and security (keep current as staff changes):

Primary Person: \_\_\_\_\_ Title: \_\_\_\_\_

Secondary Person: \_\_\_\_\_ Title: \_\_\_\_\_

- ☐ Vaccine ordering will be done every \_\_\_\_\_ or on the \_\_\_\_\_ day of each month.

Primary Person: \_\_\_\_\_ Title: \_\_\_\_\_

Secondary Person: \_\_\_\_\_ Title: \_\_\_\_\_

- ☐ Maintain proper temperature for storage of vaccine:

Unit	Fahrenheit (F)	Celsius (C)
Refrigerator	35° - 46° F	2° - 8° C
Freezer	5° F or colder	-15° C or colder

- ☐ Monitor temperatures and record twice a day: morning and evening. (See *Temperature Log*)
- ☐ Maintain ongoing file of temperature logs. Keep for at least three years. Immediately take action if you mark out of range. Document what was done to ensure vaccine viability as well as action taken to establish proper temperatures on the temperature log.
- ☐ Immediately unpack received vaccines and store at proper temperature.
- ☐ Label VFC vaccines and store separately from private stock.
- ☐ Conduct monthly inventory counts.
- ☐ Store and rotate vaccines according to expiration dates and use vaccines with the shortest expiration dates first.
- ☐ If vaccines are within 90 days of expiration and will not be used, contact the Utah VFC Program.
- ☐ Check the unit doors to ensure they are closed and, if possible, locked.
- ☐ Place "DO NOT UNPLUG" stickers next to outlet and circuit breakers.
- ☐ Use safety outlet covers where possible.
- ☐ Advise maintenance and cleaning personnel not to unplug refrigerator/freezer units.
- ☐ If VFC vaccine is expired, wasted or spoiled: contact the Utah VFC Program, complete the "Vaccine Return and Transfer" form and return vaccine to McKesson in a McKesson shipper.

### **Emergency Vaccine Handling/Storage Plan**

- ☐ Designate two people responsible for emergency vaccine storage and security (keep current as staff changes):  
Primary Person: \_\_\_\_\_ Title: \_\_\_\_\_  
Secondary Person \_\_\_\_\_ Title: \_\_\_\_\_
- ☐ How will designated personnel be contacted in vaccine storage emergency? (ie: phone, alarm, etc)
- ☐ These people have 24-hour access to storage units storing vaccines:

NAME	TITLE	CONTACT INFORMATION

- ☐ Steps to follow for proper handling and storage of vaccines to protect them from becoming spoiled. (How to pack and move vaccines)
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
- ☐ Designate alternative storage units and facilities (back-up refrigerator, fire dept., hospital, another provider).

ALTERNATE LOCATION	CONTACT PERSON	ADDRESS & TELEPHONE #

- ☐ Procedures that the designated personnel should follow to access alternative units and facilities.
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
- ☐ Designate a refrigerator/freezer repair company to contact for equipment problems.  
Company Name: \_\_\_\_\_  
Phone Number: \_\_\_\_\_
- ☐ Record the following information on each refrigerator/freezer unit.  
Brand: \_\_\_\_\_  
Model #: \_\_\_\_\_  
Serial #: \_\_\_\_\_

**NOTE: Utah VFC Program staff will ask for a copy of the clinic's vaccine storage & handling plans during on-site visits.**

## Emergency Response



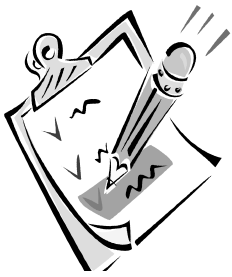
Just because a refrigerator/freezer is plugged in and running doesn't mean everything is fine and vaccines are safe. No refrigerator is perfect and accidents can happen.

In the event of an equipment breakdown or power outage follow these Utah VFC Program guidelines:

- ★ Make every attempt to move the vaccine supply to another refrigeration unit as soon as possible.
- ★ Any vaccine that has reached temperatures outside of the recommended range, either too warm or too cold, should be placed in refrigeration at the proper temperatures. Keeping a supply of styrofoam containers and ice packs is recommended for short-term storage or transporting vaccines.
- ★ Clearly mark and separate potentially spoiled vaccine from the undamaged supply, so it can be easily identified later.
- ★ The vaccine should not be used until the vaccine manufacturer or Utah VFC Program has been contacted for instructions on how to proceed. This will reduce the need to re-vaccinate individuals that may be given potentially spoiled vaccines.
- ★ Don't assume the vaccines cannot be salvaged. Depending on manufacturer specifications, the vaccine may still be viable.
- ★ Each provider is individually responsible for contacting manufacturers to discuss whether his/her vaccines may have been compromised.
- ★ Do not discard spoiled or expired VFC vaccines. Please complete the *Vaccine Return and Transfer Form* (Section 2 of Provider Tool Kit) and return them to the Utah VFC Program.

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Any time vaccine is stored outside the recommended temperatures, follow the enclosed ***Vaccine Spoilage Checklist*** and complete the enclosed ***Emergency Response Worksheet***.



# Vaccine Spoilage Checklist

In the event vaccines are not stored at recommended temperatures follow this checklist to guide you through the process of determining if vaccines are spoiled.

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- ☐ Make sure the **refrigerator/freezer is working properly**, is plugged in, and the door is shut.
- ☐ **Refrigerate vaccines at appropriate temperatures immediately**, even if you think they are spoiled. Move the vaccine to a unit that is working properly, if necessary. Follow the *Packaging Vaccines for Transport* guidelines to transfer them to a new location or for temporary storage at your clinic.
- ☐ Follow your clinic's **Emergency Vaccine Handling Plan**.
- ☐ **Mark the potentially spoiled vaccine** so that it can be easily identified and **DO NOT USE**. This will reduce the need to re-vaccinate individuals that may be given potentially spoiled vaccines.
- ☐ Complete the **Emergency Response Worksheet** to contact the manufacturers to confirm spoilage.

## Vaccines are confirmed spoiled:

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- ☐ Do not throw out the spoiled vaccines.
- ☐ Notify the Utah VFC Program at (801) 538-9450.
- ☐ Complete the **Vaccine Return and Transfer Form**.
- ☐ Attach the completed **Emergency Response Worksheet**.
- ☐ Write a **Summary Report** of the events that led to the loss and attach it to the *Vaccine Return and Transfer Form*. Include in this report a future **Plan of Action** to prevent the incident from reoccurring.
- ☐ Unless the incident was due to vaccine being left out, include the following:
  1. **Temperature Log** of recorded temperature checks for two weeks after the incident, repair or new purchase.
  2. A copy of your clinic's **Emergency Vaccine Handling Plan**.
  3. **Date** of completed refrigerator repairs if it was a refrigerator failure.
  4. Completion of vaccine Storage and Handling Training completed through the Utah VFC Program.
- ☐ Package the spoiled vaccines in a padded envelope or box (no ice needed), enclose the above documents and mail to the Utah VFC Program via:

**US Mail:**  
Utah Department of Health  
Immunization Program  
P.O. Box 142001  
Salt Lake City, UT 84114-2001

**OR**

**UPS/Fed Ex:**  
Utah Department of Health  
Immunization Program  
288 North 1460 West  
Salt Lake City, UT 84116

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The above steps must be completed before future VFC vaccine orders will be filled.

[illegible]

## FREEZER

Vaccine	Lot Number	Expiration Date	Amount of Vaccine	# of Opened Vials	Results of Manufacturer Inquiry (spoiled, viable, viable with expiration date change)

### OTHER CONDITIONS:

- Were vaccines exposed to prior temperature variations outside recommended range: Y      N  
 If yes: Date of Incident: \_\_\_\_\_  
 List vaccines affected: \_\_\_\_\_  
 \_\_\_\_\_  
 Summary of incident: \_\_\_\_\_  
 \_\_\_\_\_
- Are there water bottles in refrigerator/ice packs in freezer: Y      N
- Were any of the potentially spoiled vaccines administered to patients: Y      N

### CALL THE MANUFACTURER(S) OF AFFECTED VACCINE(S):

Vaccine	Manufacturer	Telephone Number
•e-IPV (polio)      •DT •Tripedia (DTaP)      •Td •DAPTACEL (DTaP)      •Adacel (Tdap) •ActHIB (Hib) •TriHIBit (DTaP-HIB)	sanofi-pasteur	1-800-822-2463
•Recombivax HB (Hep B)      •ProQuad •VARIVAX (Varicella)      •Gardasil •PedvaxHIB (Hib)      •Rotateq •VAQTA (Hep A)      •Zostavax •COMVAX (Hep B-Hib) •MMR	Merck & Co.	1-800-672-6372
•Infanrix (DTaP) •Engerix-B (Hep B) •HAVRIX (Hep A) •Pediarix (DTaP-Polio-Hep B) •Boostrix (Tdap)	GlaxoSmithKline	1-888-825-5249
•Prevnar (Pneumococcal conjugate) •HibTITER (Hib)	Wyeth	1-800-999-9384
•H-BIG	Bayer	1-800-288-8371, press Option 1

## Vaccine Packing & Shipping

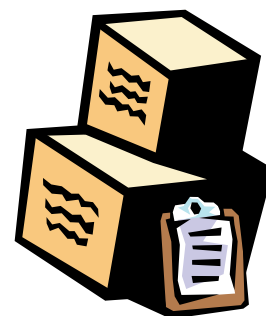
Avoid transporting vaccines as much as possible. The more often they are moved, the more likely it is that they might become spoiled. Despite your best efforts to keep vaccines in the refrigerator or freezer at all times, you may still have to transport them to another location.

**IT IS VERY IMPORTANT TO MAINTAIN THE “COLD-CHAIN” WHEN MOVING VACCINES!!!!**

### Packaging Vaccines for Transport

#### A. Shipping vaccines to a new destination:

1. Obtain shipping materials:
  - a. insulated Styrofoam container
  - b. several ice or cool packs from the freezer
  - c. temperature monitors (available through the Utah VFC Program)
  - d. several sheets of paper or other insulator (bubble wrap, foam wrap)
2. Place ice packs in the bottom of the insulated container. **\*Varicella must be packaged with a minimum of 6 lbs. of dry ice.** Diluent should not be frozen but shipped/stored at room temperature or refrigerated. **Approval from the Utah VFC Program is required to ship varicella and varicella shippers must be used.**
3. Place a layer of insulator (bubble wrap, foam wrap, or several sheets of crumpled paper) on top of the ice packs so the vaccines do not directly touch them. If paper is used, there should be at least 4 layers between the ice and vaccine.
4. Place vaccines on top of insulator. Put the most heat-sensitive vaccines (like MMR) in the middle of the other vaccines and as close to the ice packs as possible.
5. Insert temperature monitors near the center of the vaccines, but not in direct contact with the ice packs.
6. Add another layer of insulator over the vaccines.
7. Insert another layer of ice packs on top of insulator and add more insulator until the container is full, to keep the vaccine securely in place.
8. Secure the lid of the insulated container and seal with strapping tape.
9. Clearly label on the outside of the container **“Vaccine – Refrigerate Immediately”**; or **“Freeze Immediately”** if varicella is enclosed.





10. Deliver the vaccine immediately to the destination.

12. If shipping is needed, ship vaccine via **Priority Overnight Mail** either on *Monday, Tuesday or Wednesday* to ensure they reach the destination prior to the weekend.

NOTE: Some overnight carriers require that the sealed Styrofoam container be secured inside of a cardboard box to avoid possible puncture of the Styrofoam during transport.

13. For assistance, contact the Utah VFC Program at (801) 538-9450.

**B. Shipping vaccines to another Utah VFC provider(s):**

1. Obtain prior approval from the Utah VFC Program and the receiving provider(s).
2. Schedule a time with the receiving provider(s) to ensure that someone will be available in the office to assist with the transfer.
3. Complete in full the *Vaccine Return and Transfer Form* (Section 2 of Provider Tool Kit), including the name and pin number of the receiving provider(s).
4. Follow the guidelines above for proper packaging and shipping instructions.
5. Enclose a copy of the completed *Vaccine Return and Transfer Form* in the container.
6. Fax a copy of the *Vaccine Return and Transfer Form* to the Utah VFC Program at (801) 538-9440.
7. Deliver the vaccine immediately to the Utah VFC Program provider(s) via hand delivery or overnight carrier (within 24 hours).

**REMINDER:**

If Varicella thaws it may be stored at 35-46° F, but must be used within 72 hours after thawing...

**Do not refreeze it!**

Avoid transporting Varicella because this vaccine is so fragile.

# **SOLID CARBON DIOXIDE (DRY ICE) WARNING!!**

**DON'T TOUCH DRY ICE - AND DON'T BREATHE CARBON DIOXIDE (CO<sub>2</sub>) GAS!**

- ♦ Dry ice is extremely cold (-110°F). Avoid contact with exposed flesh, to avoid frostbite.
- ♦ Dry ice evaporates (sublimes) to form carbon dioxide gas which does not support life. It can cause respiratory distress and death by suffocation.
- ♦ Cold carbon dioxide gas is heavier than air, and can accumulate at floor level or in confined spaces, increasing the risk of suffocation. Early signs include difficulty breathing, or panting. Immediately move to an open area.
- ♦ Do not enter areas where carbon dioxide vapor may have accumulated without first testing for carbon dioxide and oxygen content.
- ♦ Do not store in a tight container. Pressure develops as solid evaporates (sublimes) and could burst air-tight containers.
- ♦ Wear suitable clothing, goggles to protect eyes and thick gloves when handling. Provide adequate ventilation.
- ♦ Use only with equipment designed for low temperatures.
- ♦ First aid: In case of frostbite, obtain medical treatment immediately. If inhaled, move to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.



# VACCINE MANAGEMENT

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## **Recommendations for Storage and Handling of Selected Biologicals**



Department of Health and Human Services

**DTaP:** Diphtheria Toxoid, Tetanus Toxoid, Acellular Pertussis Vaccine—Pediatric  
**DTaP/Hib:** Diphtheria Toxoid, Tetanus Toxoid, Acellular Pertussis Vaccine Combined with Haemophilus influenzae type b Conjugate Vaccine\*—Pediatric  
**DTaP/HepB/IPV:** Diphtheria Toxoid, Tetanus Toxoid, Acellular Pertussis Vaccine, Hepatitis B Vaccine, Inactivated Polio Vaccine—Pediatric  
**Tdap:** Tetanus Toxoid, Diphtheria Toxoid, Acellular Pertussis Vaccine—Adult  
**DT:** Diphtheria, Tetanus Toxoids—Pediatric  
**Td:** Tetanus, Diphtheria Toxoids—Adult

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°-8°C (35°-46°F).

**Do not freeze** or store vaccine in direct contact with refrigerant.

### Condition on Arrival\*\*

Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

### Storage Requirements

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze or expose to freezing temperatures.**

### Shelf Life

Check expiration date on vial, container, or manufacturer-filled syringe.

### Instructions for Reconstitution or Use

Shake well before withdrawal and use. Do not use if resuspension does not occur with vigorous shaking.

### Shelf Life after Reconstitution, or Opening

**Single-Dose Vials:** The vaccine should be administered shortly after withdrawal from the vial.

**Multi-Dose Vials of Td:** Unused portions may be refrigerated at 2°-8°C (35°-46°F) and used until outdated, if not contaminated.

**Manufacturer-Filled Syringes:** The vaccine should be administered shortly after the needle is attached to the syringe.

### Special Instructions

Rotate stock so that the earliest dated material is used first.

\*ACTHIB® (sanofi pasteur) should be used within 24 hours of reconstitution if used alone. If sanofi pasteur DTaP is used to reconstitute ACTHIB®, the TriHibit® vaccine must be used within 30 minutes of reconstitution. Only sanofi pasteur DTaP-Tripedia® or the diluent shipped with the product may be used to reconstitute the sanofi Pasteur ActHIB® product. Sanofi Pasteur DAPTACEL® is not licensed for use in reconstitution of ActHIB®

\*\*If you have questions about the condition of the material at the time of delivery, you should:

1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

Pedvax Hib® (Merck) available in liquid one-dose vials good for 24 hours after reconstitution if kept at 2°-8°C (35°-46°F).

## **Hepatitis Vaccines: Hepatitis A, Hepatitis B, Hepatitis A/B, Hepatitis B/ Haemophilus influenzae type b**

### **Shipping Requirements \*\*\***

Should be shipped in insulated container. Maintain temperature at 2°-8°C (35°-46°F).

**Do not freeze or expose to freezing temperatures.**

### **Condition on Arrival\***

Should not have been frozen. Refrigerate upon arrival.

### **Storage Requirements**

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze.**

### **Shelf Life**

Check expiration date on vial, container, or manufacturer-filled syringe.

### **Instructions for Reconstitution or Use**

Shake vial vigorously before withdrawal and use.

### **Shelf Life after Opening**

**Single-Dose Vials:** The vaccine should be administered shortly after withdrawal from the vial.

**Manufacturer-Filled Syringes:** The vaccine should be administered shortly after the needle is attached to the syringe.

### **Special Instructions**

Rotate stock so that the earliest dated material is used first.

## **HiB: Haemophilus influenzae type b Conjugate Vaccine**

### **Shipping Requirements**

Should be shipped in insulated container. Maintain temperature at 2°-8°C (35°-46°F).

**Do not freeze or expose to freezing Temperatures.**

### **Condition on Arrival\***

Should not have been frozen. Refrigerate on arrival.

### **Storage Requirements**

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze** – this reduces potency.

### **Shelf Life**

Check expiration date on vial or container.

### **Instructions for Reconstitution\*\* or Use**

Shake well before withdrawal and use. Do not sue if resuspension does not occur with vigorous shaking.

### **Shelf Life after Reconstitution\*\*, or Opening**

The vaccine should be administered shortly after withdrawal from the vial.

### **Special Instructions**

Rotate stock so that the earliest dated material is used first.

\* If you have questions about the condition of the material at the time of delivery, you should: 1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

\*\*ACTHIB® (sanofi pasteur) should be used within 24 hours of reconstitution if used alone. If sanofi pasteur DTaP is used to reconstitute ACTHIB®, the TriHibit® vaccine must be used within 30 minutes of reconstitution. Only sanofi Pasteur DTaP-Tripedia® or the diluent shipped with the product may be used to reconstitute the sanofi Pasteur ActHIB® product. Sanofi Pasteur DAPTACEL® is not licensed for use in reconstitution of ActHIB®

\*\*\*Engerix by Glaxo SmithKline may be shipped without refrigerant for up to 96 hours as long as the vaccine does not exceed 86°F.

## HPV: Human Papillomavirus Vaccine

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°-8°C (35°-46°F).

**Do not freeze or expose to freezing temperatures.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate upon arrival.

### Storage Requirements

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze.**

### Shelf Life

Check expiration date on vial, container, or manufacturer-filled syringe.

### Special Instructions

Rotate stock so that the earliest dated material is used first.

### Instructions for Use

Shake well before use. Thorough agitation immediately before administration is necessary to maintain suspension of the vaccine. After thorough agitation, the vaccine is a white, cloudy liquid. Inspect visually for particulate matter and discoloration prior to administration. Do not use the product if particulates are present or if it appears discolored.

### Shelf Life after Opening

The vaccine should be administered shortly after withdrawal from the vial. Doses remaining in the vial may be used until outdated if not contaminated.

NOTE: When using the Manufacturer-Filled syringes, use the enclosed needle for administration. If a different needle is chosen, it should fit securely on the syringe and be no longer than 1 inch to ensure proper functioning of the needle guard device.

## IPV: Inactivated Polio Vaccine

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°-8°C (35°-46°F).

**Do not freeze or expose to freezing Temperatures.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate on arrival.

### Storage Requirements

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze** – this reduces potency.

### Shelf Life

Check expiration date on vial or container.

### Instructions for Use

**Multidose Vials:** Shake vial vigorously before withdrawal and use. Withdraw 0.5 mL of vaccine into separate sterile needle and syringe for each immunization.

### Shelf Life after Opening

The vaccine should be administered shortly after withdrawal from the vial. Doses remaining in the vial may be used until outdated if not contaminated.

### Special Instructions

Rotate stock so that the earliest dated material is used first.

\* If you have questions about the condition of the material at the time of delivery, you should: 1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## TIV: Trivalent Inactivated Influenza Vaccine

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°-8°C (35°-46°F).

**Do not freeze or expose to freezing Temperatures.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate on arrival.

### Storage Requirements

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze.**

### Shelf Life

Formulated for use during current influenza season.

### Instructions for Reconstitution or Use

Shake vial vigorously before withdrawal and use.

### Shelf Life after Opening

**Multidose Vials:** The vaccine should be administered shortly after withdrawal from the vial.

**Manufacturer-Filled Syringes:** Sterile until removal of hub cap.

### Special Instructions

Rotate stock so that the shortest dated vaccine is used first.

**Td:** Adult: Tetanus-Diphtheria Toxoids

**DT:** Pediatric: Diphtheria-Tetanus Toxoids

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°-8°C (35°-46°F).

**Do not freeze** or store vaccine in direct contact with refrigerant.

### Condition on Arrival\*

Should not have been frozen. Refrigerate on arrival.

### Storage Requirements

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze.**

### Shelf Life

Up to 2 years. Check date on vial or container.

### Instructions for Reconstitution or Use

Shake vial vigorously before withdrawing each dose.

### Shelf Life after Reconstitution, Thawing, or Opening

Until outdated, if not contaminated.

### Special Instructions

Rotate stock so that the shortest dated vaccine

\* If you have questions about the condition of the material at the time of delivery, you should:

1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## LAIV: Live Attenuated Influenza Vaccine

### Shipping Requirements

Should be shipped frozen in insulated container with dry ice at 4° F (-20° C) or colder. Shipment includes WarmMark temperature indicator.

### Condition on Arrival\*

Should be frozen at 4° F (-20° C) or colder; **must not have thawed in shipment.** (All windows in WarmMark indicator should be white. If any indicator windows are red, do not use the product. Call the manufacturer for further instructions.)

### Storage Requirements

Upon arrival, immediately store the vaccine in a freezer with its own exterior door. Must be maintained in a continuously frozen state at 5° F (-15° C) or colder. **No freeze/thaw cycles are permitted with this vaccine.** May be stored in either a manual defrost freezer or in a frost-free freezer compartment.

In order to maintain the temperature of 5° F (-15° C) or colder in the freezer, it will be necessary in most refrigerator/freezer models to turn the temperature dial down to the coldest setting. This may result in the refrigerator compartment temperature being lowered as well. Careful monitoring of the refrigerator temperatures will be necessary to avoid freezing killed or inactivated vaccines.

NOTE: The manufacturer supplied freezer box is no longer required for storage of LAIV vaccine in a frost-free freezer.

### Shelf Life

Formulated for use during current influenza season.

### Instructions for Reconstitution or Use

Thaw sprayer in palm of hand before administering. Do not roll the vaccine sprayer in your hand, as this may dislodge the dose divider clip. May also be thawed in a refrigerator and stored at 2°-8°C (35°-46°F) for no more than 60 hours prior to use. **Do not refreeze after thawing.**

### Shelf Life after Opening

The vaccine should be administered shortly after thawing. Vaccine thawed in the refrigerator and stored at 2°-8°C (35°-46°F) that is not used within 60 hours must be discarded in an impenetrable sharps container.

### Special Instructions

Rotate stock so that the earliest dated material is used first.

NOTE: All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

\* If you have questions about the condition of the material at the time of delivery, you should:

1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.



## **MMR Vaccine: Measles/Mumps/Rubella**

## **MR Vaccine: Measles/Rubella**

## **Measles Virus Vaccine, Mumps Virus Vaccine, Rubella Virus Vaccine**

### **Shipping Requirements**

**Vaccine** – Use insulated container. Must be shipped with refrigerant. Maintain at 10°C (50°F) or less. If shipped with dry ice, diluent must be shipped separately.

**Diluent** – May be shipped with vaccine but do not place in container with dry ice.

### **Condition on Arrival\***

Maintain at 10°C (50°F) or less. If above this temperature, see instructions (\*) below.

**Do not use warm vaccine.** Refrigerate on arrival.

### **Storage Requirements**

Vaccine may be stored separately from diluent. Store as follows:

**Vaccine:** Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Protect from light at all times**, since such exposure may inactivate the virus.

**Diluent:** May be refrigerated or stored at room temperature 20°-25°C (68°-77°F). **Do not Freeze.**

NOTE: Freeze dried (lyophilized) vaccines may be maintained at freezer temperatures.

### **Shelf Life**

Check expiration date on container or vial.

### **Instructions for Reconstitution or Use**

**Reconstitute just before using.** Use **only** the diluent **supplied** to reconstitute the vaccine. Inject diluent into the vial of lyophilized vaccine and agitate to ensure thorough mixing. Withdraw entire contents into syringe and inject total volume of vaccine subcutaneously.

### **Shelf Life after Reconstitution, Thawing, or Opening**

After reconstitution, use immediately or store in a dark place at 2°-8°C (35°-46°F). **Discard if not used within 8 hours.**

### **Special Instructions**

Rotate stock so that the shortest dated vaccine is used first.

NOTE: All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

**NOTE:** All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

\* If you have questions about the condition of the material at the time of delivery, you should: 1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## MMRV: Measles/Mumps/Rubella/Varicella Vaccine

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### Shipping Requirements

**Vaccine** – Use insulated container. Must be shipped with dry ice only at 4° F (-20° C) or colder. Should be delivered within 2 days.

**Diluent** – May be shipped with vaccine but do not place in container with dry ice.

### Condition on Arrival\*

Should be frozen. Vaccine should remain at 4° F (-20° C) or colder until arrival at the healthcare facility. Dry ice should still be present in the shipping container when vaccine delivered.

### Storage Requirements

**Vaccine:** Freeze immediately upon arrival. Maintain vaccine in a continuously frozen state at 5° F (-15° C) or colder. **No freeze/thaw cycles are allowed with this vaccine.** Vaccine should only be stored in freezers or refrigerator/freezers with separate doors and compartments. Acceptable storage may be achieved in standard house

### Shelf Life

Check expiration date on container or vial.

### Instructions for Reconstitution or Use

**Reconstitute just before using.** Use **only** the diluent supplied to reconstitute the vaccine.

### Shelf Life after Reconstitution, Thawing, or Opening

**Discard reconstituted vaccine if it is not used within 30 minutes. Do not freeze reconstituted vaccine.**

### Special Instructions

Rotate stock so that the earliest dated material is used first.

NOTE: All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

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\* If you have questions about the condition of the material at the time of delivery, you should:

1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## MCV4: Meningococcal Conjugate Vaccine, Groups A, C, Y, W-135

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°- 8° C (35°- 46° F)

**Do not freeze.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate upon arrival.

### Storage Requirements

Refrigerate immediately upon arrival. Store at 2°-8°C (35°-46°F) **Do not freeze. Protect from light.**

### Shelf Life

Check expiration date on vial or container.

### Instructions for Reconstitution and Use

Follow manufacturer's directions.

### Shelf Life After Opening

The vaccine should be administered shortly after withdrawal from the vial.

### Special Instructions

Rotate stock so the earliest dated material is used first. Vaccine should be injected by intramuscular route. Do not inject intradermally, subcutaneously, or intravenously.

## MPSV4: Meningococcal Polysaccharide Vaccine, Groups A, C, Y, W-135

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°- 8° C (35°- 46° F)

**Do not freeze.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate upon arrival.

### Storage Requirements

Refrigerate immediately upon arrival. Store at 2°- 8° C (35°- 46° F). **Do not freeze.**

### Shelf Life

Check expiration date on vial or container.

### Instructions for Reconstitution and Use

Reconstitute gently. This is a white powder that yields a clear colorless liquid when reconstituted with 0.6 ml (single dose vial) or 6 ml (10 dose vial) of sterile distilled water.

### Shelf Life after Reconstitution or Opening

**Single-Dose Vials:** Use within 30 minutes of reconstitution.

**Multidose Vials:** Unused portions of multi-dose vials may be refrigerated at 2°- 8° C (35°- 46° F) and used up to 35 days after reconstitution.

### Special Instructions

Diluent to be used is sterile, distilled water for injection; diluent for 10-dose vial also contains 0.01% thimerosal. Reconstituted vaccine should be injected subcutaneously. Do not inject intradermally, intramuscularly, or intravenously.

Rotate stock so that the earliest dated material is used first.

\* If you have questions about the condition of the material at the time of delivery, you should: 1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## PCV: Pneumococcal Conjugate Vaccine (7 valent)

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°- 8° C (35°- 46° F). **Do not freeze.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate on arrival.

### Storage Requirements

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F) **Do not freeze.**

### Shelf Life

Check expiration date on vial or container.

### Instructions for Use

Vaccine should appear as a homogenous white suspension after vigorous shaking. The vaccine should be administered intramuscularly only.

### Shelf Life After Opening

The vaccine should be administered shortly after withdrawal from the vial.

### Special Instructions

This vaccine is a suspension containing adjuvant and should not be used if the particles cannot be resuspended after vigorous shaking. Rotate stock so that the earliest dated material is used first.

## PPV: Pneumococcal Polysaccharide Vaccine (Polyvalent)

### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°- 8° C (35°- 46° F). **Do not freeze.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate on arrival.

### Storage Requirements

Refrigerate immediately on arrival. Store at 2°-8°C (35°-46°F). **Do not freeze.**

### Shelf Life

Check expiration date on vial or container.

### Instructions for Use

Follow manufacturer's directions.

### Shelf Life after Opening

**Single-Dose Vials:** The vaccine should be administered shortly after withdrawal from the vial.

**Multidose Vials:** Unused portions of multi-dose vials may be refrigerated at 2°- 8° C (35°- 46° F) and used until outdated, if not contaminated.

### Special Instructions

Do not inject intravenously. Intradermal administration may cause severe local reactions and should be avoided. Rotate stock so that the earliest dated material is used first.

\* If you have questions about the condition of the material at the time of delivery, you should: 1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## Rotavirus Vaccine

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### Shipping Requirements

Should be shipped in insulated container. Maintain temperature at 2°- 8° C (35°- 46° F). **Do not freeze.**

### Condition on Arrival\*

Should not have been frozen. Refrigerate upon arrival.

### Storage Requirements

Refrigerate immediately upon arrival. Store at 2°- 8° C (35°- 46° F). **Do not freeze.** Protect from light at all times.

### Shelf Life

Check expiration date on container.

### Instructions for Use

Each dose is supplied in a container consisting of a squeezable plastic, latex-free dosing tube with a twist-off cap, allowing for direct oral administration. The dosing tube is contained in a pouch. Remove the dosing tube from the pouch, screw the cap clockwise to puncture the tube, and screw the cap off counter-clockwise so that the liquid can be squeezed from the tube during oral administration of the vaccine.

### Shelf Life after Opening

**Single-Dose Pouches:** The vaccine should be administered shortly after withdrawal from the refrigerator. The dosing tube should not be returned to the refrigerator once the screw cap has been removed.

### Special Instructions

Rotate stock so that the earliest dated material is used first.

NOTE: All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

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\* If you have questions about the condition of the material at the time of delivery, you should:

1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## Varicella (Chickenpox) Vaccine

### Shipping Requirements

**Vaccine:** Use insulated container. Must be shipped with dry ice only, at 4° F (-20° C) or colder. Should be delivered within 2 days.

**Diluent:** May be shipped with vaccine, but do not place in container with dry ice.

### Conditions on Arrival\*

**Should be frozen.** Vaccine should remain at 4°F (-20°C) until arrival at the health care facility. Dry ice should still be present in the shipping container when vaccine is delivered.

### Storage Requirements

**Vaccine:** Freeze immediately upon arrival. Maintain vaccine in a continuously frozen state at 5° F (-15° C) or colder. **No freeze/thaw cycles are allowed with this vaccine.** Vaccine should only be stored in freezers or refrigerator/freezers with separate doors and compartments. Acceptable storage may be achieved in standard household freezers purchased in the last 10 years, and standard household refrigerator/freezers with a separate, sealed freezer compartment. “Dormitory-style” units are not appropriate for the storage of varicella vaccine.

In order to maintain temperatures of 5° F (-15° C) or colder, it will be necessary in most refrigerator/freezer models to turn the temperature dial down to the coldest setting. This may result in the refrigerator compartment temperature being lowered as well. Careful monitoring of the refrigerator temperature will be necessary to avoid freezing killed or inactivated vaccines.

**Diluent:** May be refrigerated or stored at room temperature (68° to 77° F [20° to 25° C]). **Do not freeze or expose to freezing temperatures.**

### Shelf Life

Check expiration date on container or vial.

### Instructions for Reconstitution or Use

Reconstitute just before using. Use only the diluent supplied to reconstitute the vaccine.

### Shelf Life After Reconstitution, Thawing or Opening

Protect from light. Discard if not used within **30 minutes** of reconstitution.

### Special Instructions

If this vaccine is stored at a temperature warmer than 5° F (-15° C), it will result in a loss of potency and a reduced shelf life. If a power outage or some other situation occurs that results in the vaccine storage temperature rising above the recommended temperature, the healthcare provider should contact Merck, the vaccine manufacturer, at 1-800-609-4618 for a re-evaluation of the product potency before using the vaccine. Rotate stock so that the earliest dated material is used first.

Single-antigen varicella vaccine **only** may be stored at refrigerator temperature 2°- 8° C (35°- 46° F), for up to 72 continuous hours prior to reconstitution. Single-antigen varicella vaccine stored at 2°- 8° C (35°- 46° F) that is not used within 72 hours of removal from 5° F (-15° C) storage should be discarded.

NOTE: All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

\* If you have questions about the condition of the material at the time of delivery, you should: 1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.

## Zoster (Shingles) Vaccine

### Shipping Requirements

**Vaccine:** Use insulated container. Must be shipped with dry ice only, at 4° F (-20° C) or colder. Should be delivered within 2 days.

**Diluent:** May be shipped with vaccine, but do not place in container with dry ice.

### Conditions on Arrival\*

**Should be frozen.** Vaccine should remain at 4°F (-20°C) until arrival at the health care facility. Dry ice should still be present in the shipping container when vaccine is delivered.

### Storage Requirements

**Vaccine:** Freeze immediately upon arrival. Maintain vaccine in a continuously frozen state at 5° F (-15° C) or colder. **No freeze/thaw cycles are allowed with this vaccine.** Vaccine should only be stored in freezers or refrigerator/freezers with separate doors and compartments. Acceptable storage may be achieved in standard household freezers purchased in the last 10 years, and standard household refrigerator/freezers with a separate, sealed freezer compartment. “Dormitory-style” units are not appropriate for the storage of zoster vaccine. **Do not store lyophilized vaccine in the refrigerator.** Protect the vaccine from light at all times since such exposure may inactivate the vaccine viruses.

In order to maintain temperatures of 5° F (-15° C) or colder, it will be necessary in most refrigerator/freezer models to turn the temperature dial down to the coldest setting. This may result in the refrigerator

compartment temperature being lowered as well. Careful monitoring of the refrigerator temperature will be necessary to avoid freezing killed or inactivated vaccines.

**Diluent:** May be refrigerated or stored at room temperature (68° to 77° F [20° to 25° C]).

**Do not freeze or expose to freezing temperatures.**

### Shelf Life

Check expiration date on container or vial.

### Instructions for Reconstitution or Use

Reconstitute just before using. Use only the diluent supplied to reconstitute the vaccine.

### Shelf Life After Reconstitution, Thawing or Opening

**Discard reconstituted vaccine if it is not used within 30 minutes. Do not freeze reconstituted vaccine.**

### Special Instructions

If this vaccine is stored at a temperature warmer than 5° F (-15° C), it will result in a loss of potency and a reduced shelf life. If a power outage or some other situation occurs that results in the vaccine storage temperature rising above the recommended temperature, the healthcare provider should contact Merck, the vaccine manufacturer, at 1-800-MERCK-90 for a re-evaluation of the product potency before using the vaccine. Rotate stock so that the earliest dated material is used first.

NOTE: All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

\* If you have questions about the condition of the material at the time of delivery, you should: 1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the Utah VFC Program at 801-538-9450.



# Manufacturer Quality Control Office Telephone Numbers

Manufacturer/Distributor	Telephone Number	Products
sanofi pasteur <a href="http://www.sanofipasteur.us">www.sanofipasteur.us</a>	800-822-2463	DTaP, DTaP-Hib, DT, Td, Tdap, TT, Hib, Influenza, (TIV), IPV, MCV4, MPSV4
Talecris Biotherapeutics <a href="http://www.talecrisusa.com">www.talecrisusa.com</a>	800-520-2807	HBIG, IGIM, TIG, TIG
Centers for Disease Control & Prevention Drug Service <a href="http://www.cdc.gov/ncidod/srp/drugs/drug-service.html">www.cdc.gov/ncidod/srp/drugs/drug-service.html</a>	404-639-3670	Distributor for Diphtheria antitoxin
Novartis <a href="http://www.novartis-vaccines.com/products/index.shtml">http://www.novartis-vaccines.com/products/index.shtml</a>	800-244-7668	Influenza (TIV)
GlaxoSmithKline <a href="http://www.gsk.com/products/vaccines.jsp">www.gsk.com/products/vaccines.jsp</a>	866-475-8222 (customer support) 888-825-5249 (customer support)	DTaP, DTaP-HepB-IPV, Tdap, HepA, HepB, HepA-HepB, Influenza (TIV)
Massachusetts Biological Labs	617-983-6400	Td, TT, IGIM
MedImmune, Inc. <a href="http://www.medimmune.com">www.medimmune.com</a>	877-358-6478 (LAIV customer support) 877-633-4411 (general customer support)	Influenza (LAIV)
Merck <a href="http://www.merckvaccines.com">www.merckvaccines.com</a>	800-609-4618 (customer support) 800-672-6372 (customer support)	Hib, Hib-HepB, HepA, HepB, HPV, Measles, Mumps, Rubella, MMR, MMRV, PPV23, Rotavirus, Varicella, Zoster
Nabi Biopharmaceuticals <a href="http://www.nabi.com">www.nabi.com</a>	800-635-1766	HBIG
Wyeth <a href="http://www.wyeth.com">www.wyeth.com</a>	800-999-9384 (storage) 800-934-5556 (customer support) 800-666-7248 (customer support)	Hib, PCV7





# Immunization Resources

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## **UTAH IMMUNIZATION PROGRAM**

[www.immunize-utah.org](http://www.immunize-utah.org)

On-line Vaccine Management Training

- Click “Provider Information,”
- Click “Provider On-Line Education,”
- Click “Vaccine Storage and Handling Toolkit”

## **CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)**

National Immunization Program

[www.cdc.gov/nip](http://www.cdc.gov/nip)

## **CDC NATIONAL IMMUNIZATION INFORMATION HOTLINE**

Recommendations, Referrals, FREE Publications

(800) 232-2522 (English)

(800) 232-0233 (Spanish)

## **IMMUNIZATION ACTION COALITION**

[www.immunize.org](http://www.immunize.org)

## **EPIDEMIOLOGY AND PREVENTION OF VACCINE-PREVENTABLE DISEASES**

TENTH EDITION – JANUARY 2007 (PINK BOOK)

Department of Health and Human Services, Centers for Disease Control and Prevention

For a free copy, call Utah VFC Program (801) 538-9450



# VACCINE STORAGE AND HANDLING CHART

VACCINE	SHIPPING/ ARRIVAL	STORAGE REQUIREMENTS	INSTRUCTIONS FOR RE- CONSTITUTION OR USE	SPECIAL INSTRUCTIONS
<b>DIPHTHERIA TETANUS PERTUSSIS</b>	NOT FROZEN Insulated container	DO NOT FREEZE Refrigerate immediately at 2-8° C (35-46° F)	Shake vial well before withdrawal and use. Do not use if resuspension does not occur with vigorous shaking.	Rotate stock so that the earliest dated material is used first.
<b>HEPATITIS A and B</b>	NOT FROZEN Insulated container	DO NOT FREEZE Refrigerate immediately at 2-8° C (35-46° F)	Shake vial vigorously before withdrawal and use.	Rotate stock so that the earliest dated material is used first.
<b>HIB</b>	NOT FROZEN Insulated container	DO NOT FREEZE Refrigerate immediately at 2-8° C (35-46° F)	Shake vial well before withdrawal and use. Do not use if resuspension does not occur with vigorous shaking.	Rotate stock so that the earliest dated material is used first.
<b>INFLUENZA INTRA- NASAL</b>	FROZEN Insulated container with DRY ICE Must remain at -20° C (-4°F)	MUST STAY FROZEN! Freeze immediately at -15°C (5° F) or below  Must be kept in a certified freezer.	Thaw sprayer in palm of hand before administering. Discard if not used within 60 hours after thawing. DO NOT REFREEZE AFTER THAWING.	Rotate stock so that the earliest dated material is used first. Use before expiration.
<b>INFLUENZA INJECTABLE</b>	NOT FROZEN Insulated container	DO NOT FREEZE Refrigerate immediately at 2-8° C (35-46° F)	Shake vial vigorously before with- drawal and use. Withdraw 0.5 mL of vaccine into sterile needle and syringe for each immunization.	Rotate stock so that the earliest dated material is used first. Use within season.
<b>IPV</b>	NOT FROZEN Insulated container	DO NOT FREEZE Refrigerate immediately at 2-8° C (35-46° F)	Shake vial vigorously before with- drawal and use. Withdraw 0.5 mL of vaccine into a sterile needle and syringe for each immunization.	Vaccine should be adminis- tered shortly after with- drawal from the vial. Rotate stock so that the earliest dated material is used first.
<b>MEASLES MUMPS RUBELLA</b>	Maintain at 10°C (50°F) or less. Insulated container with refrigerant	DO NOT FREEZE DILUENT. Protect vac- cine from light at all times! Refrigerate immediately at 2-8° C (35-46° F)	Use immediately after reconstitution or store in a DARK place at 2-8° C (35-46° F) Discard if not used within 8 hours of reconstitution.	Freeze dried vaccines may be maintained at freezer temperatures. Rotate stock so that the earliest dated material is used first.
<b>MENINGO- COCCAL</b>	NOT FROZEN Insulated container	DO NOT FREEZE Refrigerate immediately at 2-8° C (35-46° F)	<b>Conjugate:</b> Protect from light <b>Polysaccharide:</b> Reconstitute gently. This is a white powder that yields a clear liquid when reconstituted with sterile distilled water.	<b>Conjugate:</b> Injected intramuscularly. <b>Polysaccharide:</b> Injected subcutaneously. Rotate stock.
<b>PNEUMO- COCCAL</b>	NOT FROZEN Insulated container	DO NOT FREEZE Refrigerate immediately at 2-8° C (35-46° F)	<b>Conjugate:</b> Protect from light.  <b>Polysaccharide:</b> Use until outdated.	<b>Conjugate:</b> Injected intramuscularly <b>Polysaccharide:</b> Injected intramuscularly or subcuta- neously. Rotate stock.
<b>VARICELLA AND ZOSTER</b>	Ship on Dry Ice. Delivered within 2 days FROZEN. Must remain at -20° C (-4°F)	MUST STAY FROZEN! Freeze immediately at -15°C (5° F) or below  Must be kept in a certified freezer.	Discard if NOT used within 30 minutes of reconstitution. Use ONLY the provided diluent. Protect from light.	Rotate stock so that the earliest dated material is used first.



Utah Department of Health

# IMMUNIZATION PROGRAM

Immunize for healthy lives

**Utah Vaccines for Children Program**

**P.O. Box 142001**

**Salt Lake City, Utah 84114-2001**

**Phone: (801) 538-9450**

**Fax: (801) 538-9440**

**Web: [www.immunize-utah.org](http://www.immunize-utah.org)**